



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,535	11/21/2000	Harri Holma	975.315USW1	5821
32294	7590	07/10/2006	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P.			FERRIS, DERRICK W	
14TH FLOOR			ART UNIT	
8000 TOWERS CRESCENT			PAPER NUMBER	
TYSONS CORNER, VA 22182			2616	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Response to Arguments

1. This Office action is in response to applicant's paper filed 5/15/2006. **Claims 19-30** as amended are still in consideration for this application.

2. Examiner does **not withdraw** the obviousness rejection to *Haartsen et al.* ("*Haartsen*") in view of *Kotzin et al.* ("*Kotzin*") and in further view of *Katzela et al.* ("*Katzela*"). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition, with respect to applicant's remarks concerning the *Haartsen* reference, the examiner notes that not explicitly teaching a limitation does not mean that the reference teaches away from a reference. As such, at main issue between the examiner and applicant appears to be the *Kotzin* reference. The *Kotzin* reference teaches the following at e.g., column 3, lines 46-57:

"The solution to the problem of applying frequency hopping within GSM while still allowing mobile subscribers to detect nearby base sites lies, conceptually, in a half-hopping format wherein the uplink is maintained on a frequency hopping format while the downlink does not hop. The frequency hopping uplink (indexed uplink) achieves the noise immunity of frequency hopping communication systems. The non-hopping downlink (non-indexed downlink) allows a mobile subscriber to detect, and measure, the signals of nearby base stations."

Thus *Kotzin* teaches a hopping scheme in one direction only for a GSM or TDM/TDMA system and in particular that the hopping scheme is a frequency hopping scheme. Applicant argues that the above-cited section does not apply to a time hopping scheme. After much deliberation, both the examiner and his supervisor concluded that the above scenario also applies to a time hopping scheme since the same motivation applies in avoiding interference (i.e., one skilled in the art

Art Unit: 2616

would conclude that either time hopping or frequency hopping in one direction would reduce interference where *Kotzin* explicitly teaches avoiding interference by frequency hopping in one direction and applicant's specification teaches avoiding interference by time hopping in one direction, although their specification also teaches avoid interference by time hopping in both directions, such that one skilled in the art could apply either frequency hopping or time hopping in one direction for the motivation of avoiding interference). Thus both the examiner and his supervisor respectfully disagree with applicant. Furthermore, *Haarsen* helps provide additional support that time hopping schemes for either TDMA or TDMA/TDD system were well known in the art prior to applicant's invention. *Haarsen* further teaches that FH and/or TH schemes can further co-exist, see e.g., column 10, lines 35-52. *Katzela* affirms the notion that it is well known in the art to have both fixed and dynamic channel allocations. As such, the rejection is maintained.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 19-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,393,007 B1 to *Haartsen et al.* ("*Haartsen*") in view of U.S. Patent No. 5,455,962 A to *Kotzin et al.* ("*Kotzin*") and in further view of "Channel Assignment Schemes for Cellular Mobile Telecommunication Systems: A Comprehensive Survey" to *Katzela et al.* ("*Katzela*").

As to **claim 19**, see *prior art* figure 3 of *Haartsen*. In particular, data is transmitted in bursts for using TDMA/TDD with one slot for TX and one slot for RX. Also shown is that each frame comprises a predetermined number *n* time slots on a frame- by-frame bases. In particular, the examiner note that the above reference explicitly teaches hopping in both an uplink and downlink direction and implicitly teaches hopping in either an uplink direction or downlink direction on a frame-by-frame basis.

However, since *Haartsen* may not explicitly teach frequency hopping in one direction such that the other direction uses predetermined and fixed time slots in each of the consecutive frames, the examiner notes the following obviousness rejection below.

Kotzin in combination with *Katzela* teaches the above limitation at issue in either the Background at column 2, lines 50-60 or in the Preferred Embodiment at column 3, lines 45-56 of *Kotzin* with respect to one-way hopping and in the section entitled Review of Channel Allocation Schemes taught by *Katzela* with respect to dynamically and statically assigning channels or time slots. In particular, *Kotzin* teaches that hopping can occur in only one direction (i.e., a “half-hopping format”). Although a frequency hopping appears to be taught by the reference, a time hopping scheme would also apply since if the receiving device is not aware of the hopping scheme (either frequency or time hopping) then the receiver cannot receive the beacon and obtain the necessary measurements for cell selection. Thus one skilled in the art would recognize that a time hopping scheme would also apply. In addition, both schemes avoid interference. Furthermore, in being non-hopping, the direction is by definition fixed. One skilled in the art could also argue a fixed scheme indirectly also teaches predetermined time slots

Art Unit: 2616

since the receiving device of the beacon must have prior knowledge on where to receive (i.e., which time slot or control channel) the beam information. However, assuming that above assumption may not be explicitly taught by *Kotzin*, *Katzela* further teaches the above underlining assumption since *Katzela* teaches that allocation schemes can be fixed (i.e., FCA), dynamic (i.e., DCA) or both (i.e., HCA) and where *Katzela* explicitly teaches that fixed schemes are “permanent” (i.e., predefined or static).

The examiner purposes to modify *Haartsen* to further clarify that the hop pattern could be applied to either the TX or RX side of the time frame thus explicitly teaching a first direction using fixed and predetermined time slots.

Thus the examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to further teach the limitation “transmission in said first direction (DL) occurs in predetermined *and fixed time* slots in each of the consecutive frames”. In particular, *Kotzin* provides two motivations for the above modification of either complying with the GSM specification, see e.g., column 2, lines 50-60 or in order for a device such as a mobile to detect and measure nearby stations, see e.g., column 2, lines 50-6 and column 3, lines 45-58. The examiner also notes a reasonable expectation of success since all three references relate to sending information on time slots.

As to **claim 20**, see similar reasoning for the rejection for claim 19.

As to **claim 21**, *Haartsen* teaches GSM in the background, see e.g., column 1, lines 25-50 where TDMA is GSM. *Kotzin* further teaches GSM, see the rejection above for claim 19.

Art Unit: 2616

As to **claim 22**, *Kotzin* also teaches that frequency hopping is possible, e.g., see column 16, lines 40-53. *Katzela* also teaches that frequency hopping is possible, see e.g., page 1, left-hand column. Examiner notes a same motivation as applied in the parent claim.

As to **claim 23**, see similar rejection to claim 21 where GSM is TDMA.

As to **claim 24**, *Haartsen* teaches assigning time slots to mobiles where the mobile stations are the users.

As to **claim 25**, *Haartsen* further teaches transmitting and receiving information in an uplink and downlink direction thus further teaching either a first or second transceiver device.

As to **claim 26**, see similar rejection to claim 21.

As to **claim 27**, see similar rejection to claim 22.

As to **claim 28**, see similar rejection to claim 23.

As to **claim 29**, see similar rejection to claim 24.

As to **claim 30**, see similar rejection to claim 25.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 2616

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

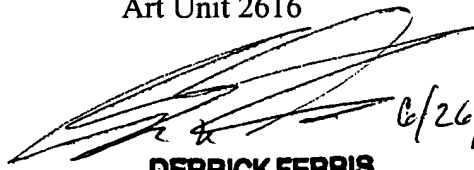
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DWF

Derrick W. Ferris
Examiner
Art Unit 2616

 6/26/06
DERRICK FERRIS
PATENT EXAMINER